In the Claims:

1. A variable gain low noise amplifier, amplifies the signal applied in an input terminal and outputs to an output terminal, comprising:

a first amplifying cell, comprises a first terminal and second terminal connected to said output terminal, amplifies said signal applied to said first terminal to high gain, and outputs to said second terminal in high gain mode;

a second amplifying cell, comprises a first terminal and second terminal connected to said output terminal, amplifies said signal applied to said first terminal to low gain, and outputs to said second terminal in low gain mode;

a selectively matching circuit, comprises a first terminal connected to said input terminal and second terminal connected to said first terminal of said first amplifying cell, and selectively changes an input impedance of said first amplifying cell;

a first short-circuit means connected between said input terminal and said first terminal of said amplifying cell, and transmits said signal applied to said input terminal to said first terminal of said second amplifying cell in the operation of low gain mode; and

wherein said selectively matching circuit changes said input impedance that the power transmitted to said first amplifying cell of the signal applied to said input terminal is to be maximum in the operation of high gain mode, and to be minimum of essentially zero in the operation of low gain mode.

2. A variable gain low noise amplifier of claim 1, further comprising a short-

circuit means connected between said second terminal of said second amplifying cell and said output terminal.

3. A variable gain low noise amplifier of claim 1, further comprising a short-circuit means connected between said input terminal and said output terminal.

4. A variable gain low noise amplifier of claim 1, wherein said first amplifying cell comprises first, second, third terminals, amplifying element , resistor and degradation impedance, and wherein

said amplifying element , resistor and degradation impedance which are controlled the amounts of current flowed from said first terminal to said second terminal in proportion to the voltage applied to said third terminal; and

a first terminal of said amplifying element is formed to said second terminal of said first amplifying cell, said second terminal is connected with one of terminals of said degradation impedance, said third terminal is connected with one of terminals of said resistor and then formed to said first terminal of said first amplifying cell, the other terminal of said resistor is applied to the HG-bias voltage of activating said first amplifying cell in an operation of high gain mode, the other terminal of said degradation impedance is grounded, and said amplifying element is connected to common mode of said second terminal.

5. A variable gain low noise amplifier of claim 1, wherein said second amplifying cell comprises

a first, second, and third terminals;

a first amplifying element controlled the amounts of current flowed from

said first terminal to said second terminal in proportion to the voltage applied to said third terminal;

wherein the second terminal of said first amplifying element is formed to said first terminal of said second amplifying cell, and said third terminal is applied to the LG-bias voltage of activating said second amplifying cell in the operation of low gain mode, and

said first amplifying element comprises

an amplifying unit connected to common mode of said third terminal; and second and third amplifying element, voltage source, and variable voltage source, which are controlled the amounts of current flowed from said first terminal to said second terminal in proportion to the voltage applied to said third terminal;

wherein said first terminal of said second amplifying element is formed to said second terminal of said second amplifying cell, said second terminal is connected to said first terminal of said first amplifying element of said amplifying unit by connecting with said second terminal of said third amplifying element, said third terminal is connected with one of the terminals of said voltage source, said first terminal of said third amplifying element is connected to the power source, said third terminal is connected to said variable voltage source, and the other terminals of said voltage source and variable voltage source are grounded.

6. A variable gain low noise amplifier of claim 1, wherein said matching circuit comprises a first and second inductor, capacitor, and short-circuit means;

and

one of said terminals of said first inductor is connected with said second inductor and said capacitor, the other terminal is connected to said short-circuit means, the other terminal of said second inductor is formed first terminal of said matching circuit, the other terminal of said capacitor is formed to second terminal of said matching circuit, and the other terminal of said short-circuit means is grounded.